

**PAGE 26:**

Line 11, insert --a plurality of the probes are--  
after "heads,";

Line 12, delete "the probe is" and delete "in a  
plurality of number";

Line 14, insert --respect to-- after "with".

**IN THE CLAIMS:**

Kindly amend claims 1-7 by rewriting them in amended  
form as follows:

*Sub 2*  
1. (Amended) A near-field optical head, comprising:  
[having:]

*GA*  
a slider supported by a suspension arm providing a  
load weight and obtaining a floating force due to a relative  
motion of the slider with respect to a recording medium, and  
producing a gap in cooperation [cooperatively] with the  
recording medium due to a balance between the load weight and  
the floating force; and

a probe [formed] provided in a bottom surface of the  
slider for [, and] producing a near-field light or converting  
a near-field light produced on a surface of the recording  
medium into a propagation light;

wherein the recording medium and the probe interact  
through the near-field light when the slider is caused to

*Amended*

undergo scanning movement relative to [scans] a surface of the recording medium to thereby effect at least one of the [effecting] recording of information onto the recording medium and the reproducing of information stored on the recording medium; and [the near-field optical head characterized in that:]

wherein the probe protrudes from the [slider] bottom surface of the slider toward the recording medium so that a distance between the probe and the recording medium is smaller than a distance between the bottom surface of the slider and the recording medium.

2. (Amended) A near-field optical head according to claim 1; [,] wherein the probe comprises [is] a microscopic aperture formed in the slider for producing a near field light or converting a near-field light produced on a surface of the recording medium into a propagation light.

3. (Amended) A near-field optical head according to claim 1; [,] wherein the probe comprises [is] a microscopic protrusion extending from the bottom surface of the slider for producing a near field light or converting a near-field light produced on a surface of the recording medium into a propagation light.

4. (Amended) A near-field optical head according to any one of claims 1 to 3; further [,] comprising a moving mechanism mounted to the slider for moving [which accommodates] the probe from a first position at which the probe does not extend from [in] the slider bottom surface or is accommodated [an] inside of the slider when the probe is not being used for [except upon] recording or reproducing of the information, and a second position at which the probe protrudes [the probe] from the slider bottom surface by [or in] a predetermined amount and [or] direction when the probe is being used for [upon] recording or reproducing the information.

5. (Amended) A near-field optical head according to any one of claims 1 to 3; [4,] wherein [the probe is formed in] a plurality of the probes are provided [number] in the slider bottom surface, and the plurality of probes each have a different [being individually set with the] amount or direction of protrusion from the bottom surface of the slider [or both thereof on an each probe basis].

6. (Amended) A near-field optical head according to any one of claims 1 to [5] 3; further [,] comprising a moving mechanism for [which] simultaneously controlling at least one [performs control] of the amount and the [or] direction of

protrusion of the probe from the bottom surface of the slider  
[or both thereof,] and scanning [of] the slider over the  
recording medium.

7. (Amended) A near-field optical head, comprising:  
a slider supported by a suspension arm providing a  
load weight and obtaining a floating force due to a relative  
motion of the slider with respect to a recording medium, and  
producing a gap in cooperation [cooperatively] with the  
recording medium due to a balance between the load weight and  
the floating force;

a probe provided in the slider and being defined by  
at least one through hole having [in] an inverted frustum form  
formed through the slider so as to provide at an apex thereof  
a microscopic aperture at a bottom surface of [in] the slider  
facing the recording medium [bottom surface]; and

one of a light emitting element and a [or] light  
detecting element disposed at an end [provided in a bottom] of  
the inverted frustum formed through hole opposite the  
microscopic aperture;

wherein a distance between the microscopic aperture  
and the light emitting element or light detecting element is  
[given] shorter than a thickness of the slider defined by a  
distance between a top surface and the bottom surface of the  
slider.

Kindly add the following new claims 8-32:

8. A near-field optical head according to claim 4; wherein a plurality of the probes are provided in the bottom surface of the slider, and the plurality of probes each have a different amount or direction of protrusion from the bottom surface of the slider.

9. A near-field optical head according to claim 4; further comprising a moving mechanism for simultaneously controlling at least one of the amount and the direction of protrusion of the probe from the bottom surface of the slider, and scanning movement of the slider with respect to the recording medium.

10. A near-field optical head according to claim 4; wherein the moving mechanism comprises a piezoelectric element disposed on the slider proximate the probe to cause the probe to project from the bottom surface of the slider in response to an applied voltage.

11. A near-field optical head according to claim 5; further comprising a moving mechanism for simultaneously controlling at least one of the amount and the direction of protrusion of the probe from the bottom surface of the slider, and scanning movement of the slider with respect to the recording medium.

12. A near-field optical head according to claim 1; wherein the slider has a tapered leading edge serving as a wedge for producing a layer of air supporting the slider away from the recording medium during relative movement of the slider with respect to the recording medium.

13. A near-field optical head according to claim 1; wherein the slider comprises a support member and the probe comprises a through-hole formed in the support member and having a microscopic aperture at a first end thereof protruding from the bottom surface of the support member.

14. A near-field optical head according to claim 13; wherein the through-hole has an inverted frustum shape.

15. A near-field optical head according to claim 13; wherein the through-hole has one of an inverted frustum shape, a rectangular parallelepiped shape and a circular columnar shape.

16. A near-field optical head according to claim 13; further comprising a light emitting element mounted to the slider at a second end of the through-hole for projecting a light through the microscopic aperture.

17. A near-field optical head according to claim 13; further comprising a light detecting element mounted to

the slider at a second end of the through hole for detecting a light projected through the microscopic aperture from the surface of the recording medium.

18. A near-field optical head according to claim 1; wherein the slider comprises a support member and the probe comprises a tapered projection having a sharpened tip disposed at a bottom surface of the support member.

19. A near-field optical head comprising: a support member mounted to undergo relative movement with respect to a sample; and a probe protruding from a bottom surface of the support member for producing a near-field light or converting a near-field light produced at a surface of the sample into a propagation light; wherein the sample and the probe interact through the near-field light when the support member undergoes relative movement with respect to the surface of the sample; and wherein the bottom surface of the support member is more distant from the sample than the probe.

20. A near-field optical head according to claim 19; wherein the support member comprises a slider supported by a suspension arm for providing a load weight and producing a floating force in response to relative motion thereof with respect to the sample so that a gap is formed between the probe and the sample due to a balance between the load weight and the floating force.

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21. A near-field optical head according to claim 19; wherein the probe comprises a microscopic aperture formed in the support member for producing a near field light or converting a near-field light produced on a surface of the sample into a propagation light.

*AB Ed*

22. A near-field optical head according to claim 19; wherein the probe comprises a microscopic protrusion extending from the support member for producing a near field light or converting a near-field light produced on a surface of the recording medium into a propagation light.

23. A near-field optical head according to claim 19; further comprising a moving mechanism mounted to the support member for moving the probe from a first position at which the probe does not protrude from the bottom surface of the support and a second position at which the probe protrudes from the bottom surface of the support member toward the sample.

24. A near-field optical head according to claim 19; wherein a plurality of the probes protrude from the bottom surface of the support member, each having a different amount or direction of protrusion from the bottom surface of the support member.



25. A near-field optical head according to claim 19; further comprising a moving mechanism for simultaneously controlling at least one of the amount and the direction of protrusion of the probe from the bottom surface of the support member and scanning the support member over the sample.

26. A near-field optical head according to claim 25; wherein the moving mechanism comprises a piezoelectric element disposed on the support member proximate the probe to cause the probe to project from the bottom surface of the support member toward the sample in response to a voltage applied to the piezoelectric element.

27. A near-field optical head according to claim 19; wherein the support member has a tapered leading edge serving as a wedge for producing a layer of air between the support member and the sample during relative movement of the support member with respect to the sample.

28. A near-field optical head according to claim 19; wherein the probe comprises a through-hole formed in the support member having a microscopic aperture at a first end thereof protruding from the bottom surface of the support member.

29. A near-field optical head according to claim 28; wherein the through-hole has one of an inverted frustum shape, a rectangular parallelepiped shape and a circular columnar shape.

30. A near-field optical head according to claim 28; wherein a light emitting element is disposed at a second end of the through-hole opposite the microscopic aperture for projecting a light through the microscopic aperture.

31. A near-field optical head according to claim 28; wherein a light detecting element is disposed at a second end of the through-hole opposite the microscopic aperture for detecting a light projected through the microscopic aperture from the surface of the recording medium.

32. A near-field optical head according to claim 19; wherein the probe comprises a tapered projection mounted to the support member and having a sharpened tip protruding from the bottom surface of the support member.

**ADDITIONAL FEES:**

A check in the amount of \$216.00 is enclosed to cover the cost of twelve additional claims in excess of twenty total. Should the check prove insufficient for any reason, or should it be determined that an additional fee is due,